





# Test Report

Report No	ED0186-2
Client	Whistler 25 Industrial Ave. Chelmsford, MA 01824
Phone	(978)-244-1400
Fax	(978)-244-1491
FRN	0007659246
Models	DE1730i
FCC ID	HSXWH10
Equipment Type Equipment Code	Radar Detector CRD
Results	As detailed within this report
Prepared by	 Mairaj Hussain – Test Engineer
Authorized by	 Michael Buchholz – EMC Manager
Issue Date	3-28-03
Conditions of issue	This Test Report is issued subject to the conditions stated in ‘terms and conditions’ section of this report.

Curtis-Straus LLC is accredited by the American Association for Laboratory Accreditation for the specific scope of accreditation under Certificate Number 1627-01. This report may contain data which is not covered by the A2LA accreditation.



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## **Summary**

This report is an application for Certification of radar detectors operating pursuant to 47 CFR 15.109 as amended by ET Docket No. 01-278; FCC 02-211, published in the Federal Register Vol. 67, No. 145 on Monday July 29, 2002. This report is designed to demonstrate the compliance of the DE1730i with the requirements outlined in Part 15 (using the methods outlined in Part 2) of 47 CFR.

## **Statement of Conformity**

47 CFR 15.109(h) states that “*Radar detectors shall comply with the emissions limits...of [section 15.109(a)] over the frequency range of 11.7 – 12.2GHz.*”

DE1730, was previously certified under HSXWH01, but due to the change in the microwave section's technology it requires a new FCC ID. Both technologies will be available to the consumer in the field. The ID number will serve Whistler as an indicator of which technology is incorporated in the product.

## **Test Methodology**

Radiated emission testing was performed according to the procedures in ANSI C63.4 (2001). The testing was performed at a distance of 1 meter. The device's performance was investigated in the range 11.7-12.2GHz. The EUT was powered by a Sunny Computer Technology Co. LTD power supply model number AD 41120500, 12VDC 500mA . Since the device is a hand-held unit, the emissions were maximized around the three orthogonal axes and the maximum reading was recorded. The integrated antenna cannot be maximized separately.

## Radiated Emissions Measurements

### LIMIT

Average:  $500\mu\text{V/m} = 54\text{dB}\mu\text{V/m}$  @ 3m [15.109(a)]

**Note:** If peak measurements meet the Average limit, then Average measurements are not required.

### MEASUREMENTS

*Note: All readings are noise floor.*

RWB: 1MHz; VBW: 3MHz

Radiated Emissions Table										Curtis-Straus LLC			
Date: 13-Mar-03			Company: Whistler			Table 1							
Engineer: Mairaj Hussain			EUT Desc: DE1730i			Work Order: D0186							
Frequency Range: 11.7 - 12.2 GHz										Measurement Distance: 1 m			
Notes:													
Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBμV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Distance Factor (dB)	Cable Factor (dB)	Adjusted Reading (dBμV/m)	---			47 CFR 15.109(a)		
								Limit (dBμV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBμV/m)	Margin (dB)	Result (Pass/Fail)
V	12200.0	28.6	20.2	38.9	9.5	4.7	42.5				54.0	-11.5	Pass
V	11725.0	29.0	20.2	39.0	9.5	4.6	42.9				54.0	-11.1	Pass
Table Result: Pass by -10.6 dB										Worst Freq: 11725.0 MHz			
Test Site: "T"		Pre-Amp: Or-Blk		Cable: 3m Microflex		Analyzer: Green		Antenna: Black Horn					

## Test Equipment Used

REV. 3/5/03

SPECTRUM ANALYZERS	RANGE	MN	MFR	SN	ASSET	CALIBRATION DUE
RED	9kHz-1.8GHz	8591E	HP	3441A03559	00024	05-JUN-2003
WHITE	9kHz-22GHz	8593E	HP	3547U01252	00022	25-FEB-2004
BLUE	9kHz-1.8GHz	8591E	HP	3223A00227	00070	04-SEP-2003
YELLOW	9kHz-2.9GHz	8594E	HP	3523A01958	00100	03-JUL-2003
X GREEN	9kHz-26.5GHz	8593E	HP	3829A03618	00143	02-OCT-2003
BLACK	9kHz-12.8GHz	8596E	HP	3710A00944	00337	08-JUL-2003
YELLOW-BLACK	20Hz-40.0MHz	3585A	HP	2504A05219	00030	25-DEC-2003
ORANGE	9kHz-26.5GHz	E4407B	HP	US39440975	00394	07-JUN-2003

OPEN AREA TEST SITE (OATS)	FCC CODE	IC CODE	VCCI CODE	CALIBRATION DUE
SITE F	93448	IC 2762-F	R-468	04-FEB-2004
X SITE T	93448	IC 2762-T	R-905	04-FEB-2004
SITE A	93448	IC 2762-A	R-903	04-FEB-2004
SITE M	93448	IC 2762-M	R-904	04-FEB-2004
BUBBLE (HP FACILITY)	N/A	N/A	R-1467	16-MAY-2005

ANTENNAS	RANGE	MN	MFR	SN	ASSET	CALIBRATION DUE
GREEN BILOG	30MHz-2GHz	CBL6112B	CHASE	2742	00620	26-FEB-2003
GREEN-BLACK BILOG	30MHz-2GHz	CBL6112B	CHASE	2412	00127	11-JUL-2004
GREEN-WHITE BILOG	30MHz-2GHz	CBL6112B	CHASE	2574	00319	11-JUL-2004
RED BILOG	30MHz-1GHz	3143	EMCO	1270	00042	11-JUL-2004
BLUE BILOG	30MHz-1GHz	3143	EMCO	1271	00803	11-JUL-2004
GRAY BILOG	26MHz-2GHz	3141	EMCO	9703-1038	00066	18-JUL-2003
YELLOW-BLACK BILOG	20-2000MHz	CBL6140A	CHASE	1112	00126	18-JUL-2003
YELLOW HORN	1-18GHz	3115	EMCO	9608-4898	00037	08-MAY-2003
X BLACK HORN	1-18GHz	3115	EMCO	9703-5148	00056	12-JUN-2003

ORANGE HORN	1-18GHz	3115	EMCO	0004-6123	00390	27-MAY-2003
WHITE HORN	18-26.5GHz	3160-09	EMCO	9610-1068	00758	26-JUN-2003
SMALL LOOP	9kHz-30MHz	PLA-130/A	ARA	1024	00755	27-JAN-2004
LARGE LOOP	20Hz-5MHz	6511	EMCO	9704-1154	00067	05-NOV-2003
ACTIVE MONOPOLE	30Hz-30MHz	3301B	EMCO	3824	00068	24-APR-2003
BLUE ACTIVE MONOPOLE	30Hz-50MHz	3301B	EMCO	4287	TELOGY RENTAL	17-AUG-2003
INDUCTION COIL	50-60Hz	1000-4-8	C-S	N/A	00778	16-SEP-2004
ADJUSTABLE DIPOLE	30-1000MHz	3121C	EMCO	1370	00757	26-JUN-2003
ADJUSTABLE DIPOLE	30-1000MHz	3121C	EMCO	1371	00756	26-JUN-2003
RE101 LOOP SENSOR	30Hz-100kHz	RE101-13.3CM	C-S	N/A	00818	07-JAN-2005
RS101 RADIATING LOOP	30Hz-100kHz	RS101-12CM	C-S	N/A	00819	07-JAN-2005
RS101 LOOP SENSOR	30Hz-100kHz	RS101-4CM	C-S	N/A	00820	07-JAN-2005

PREAMPS / ATTENUATORS / FILTERS		RANGE	MN	MFR	SN	ASSET	CALIBRATION DUE
RED		0.10-2000MHz	ZFL-1000-LN	C-S	N/A	00798	22-MAR-2003
BLUE		0.01-2000MHz	ZFL-1000-LN	C-S	N/A	00759	07-AUG-2003
BLUE-BLACK		0.01-2000MHz	ZFL-1000-LN	C-S	N/A	00800	12-SEP-2003
GREEN		0.01-2000MHz	ZFL-1000-LN	C-S	N/A	00802	22-MAR-2003
GOLD		0.01-2000MHz	ZFL-1000-LN	C-S	N/A	00044	24-MAY-2003
BLACK		0.01-2000MHz	ZFL-1000-LN	C-S	N/A	00799	22-MAR-2003
ORANGE		0.01-2000MHz	ZFL-1000-LN	C-S	N/A	00765	22-MAR-2003
WHITE		1-20GHz	SMC-12A	C-S	426643	00760	27-AUG-2003
YELLOW-BLACK		1-20GHz	SMC-12A	C-S	535055	00801	27-AUG-2003
X	ORANGE-BLACK	1-20GHz	SMC-12A	C-S	690639	00761	27-AUG-2003
YELLOW		18-26.5GHz	AFS4-18002650-60-8P-4	C-S	467559	00758	27-AUG-2003
HIGH PASS FILTER		1-18 GHz	SPA-F-55204	K&L	36	00817	31-DEC-2003
LOW PASS FILTER		1-9 GHz	11SL10-4100/X4400-O/O	K&L	4	00816	31-DEC-2003
20DB ATTENUATOR		0.03-20 GHz	PE 7019-20	PASTERNAK	01	00791	13-JUN-2003

Unless otherwise noted the calibration interval is one year. All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

## Terms And Conditions

### Paragraph 1. SERVICES. LABORATORY will:

- 1.1 Use the degree of care and skill ordinarily exercised by and consistent with the standards of the profession.
- 1.2 Perform all technical services in substantial accordance with the generally accepted laboratory principles and practices.
- 1.3 Retain all pertinent records relating to the services performed for a period of three (3) years following submission of the report describing such services, during which period the records will be made available to CLIENT upon reasonable request.

### Paragraph 2. CLIENT'S RESPONSIBILITIES. CLIENT or his authorized representative will:

- 2.1 Provide LABORATORY with all plans, schematics, specifications, addenda, change orders, drawings and other information for the proper performance of technical services.
- 2.2 Designate a person to act as CLIENT's representative with respect to LABORATORY's services to be performed on behalf of the CLIENT; such person or firm to have complete authority to transmit instructions, receive information and data, interpret and define CLIENT's policies and decisions with respect to the LABORATORY's work on behalf of the CLIENT and to order, at CLIENT's expense, such technical services as may be required.
- 2.3 Designate a person who is authorized to receive copies of LABORATORY's reports.
- 2.4 Undertake the following:
  - (a) Secure and deliver to LABORATORY, without cost to LABORATORY, preliminary representative samples of the equipment proposed to require technical services, together with any relevant data.
  - (b) Furnish such labor and equipment needed by LABORATORY to handle samples at the LABORATORY and to facilitate the specified technical services.

### Paragraph 3. GENERAL CONDITIONS:

- 3.1 LABORATORY, by the performance of services covered hereunder, does not in any way assume any of those duties or responsibilities customarily vested in the CLIENT, its employees, or any other party, agency or authority.
- 3.2 LABORATORY shall not be responsible for acts of omissions of any other party or parties involved in the design, manufacture or maintenance of the equipment or the failure of any employee, contractor or subcontractor to undertake any aspect of equipment's design, manufacture or maintenance.
- 3.3 LABORATORY is not authorized to revoke, alter, release, enlarge or release any requirement of the equipment's design, manufacture or maintenance unless specifically authorized by CLIENT or his authorized representative.
- 3.4 THE ONLY WARRANTY MADE BY LABORATORY IN CONNECTION WITH ITS SERVICE PERFORMED HEREUNDER IS THAT IT WILL USE THAT DEGREE OF CARE AND SKILL AS SET FORTH IN PARAGRAPH 1 ABOVE. NO OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE OR INTENDED FOR SERVICES PROVIDED HEREUNDER.
- 3.5 Where the LABORATORY indicates that additional testing is advisable to obtain more valid or useful data, and where such testing has not been authorized, CLIENT agrees to view such test reports as inconclusive and preliminary.
- 3.6 The LABORATORY will supply technical service and prepare a report based solely on the sample submitted to the LABORATORY by the CLIENT. The CLIENT understands that application of the data to other devices is highly speculative and should be applied with extreme caution.
- 3.7 The LABORATORY agrees to exercise ordinary care in receiving, preserving and shipping (F.O.B. Littleton, MA) any sample to be tested, but assumes no responsibility for damages, either direct or consequential, which arise from loss, damage or destruction of the samples due to the act of examination, modification or testing, or technical services or circumstances beyond LABORATORY's control.
- 3.8 The LABORATORY will hold samples for thirty (30) days after tests are completed, or until the CLIENT's outstanding debts to the LABORATORY are satisfied, whichever is later.
- 3.9 The CLIENT recognizes that generally accepted error variances apply and agrees to consider such error variances in its use of test data.
- 3.10 It is agreed between LABORATORY and CLIENT that no distribution of any tests, reports or analysis other than that described below shall be made to any third party without the prior written consent of both parties unless such distribution is mandated by operation of law. It is agreed that tests, reports, or analysis results may be disclosed to third party auditors of the laboratory at the laboratory facility in the course of accreditation maintenance audits. No reference to reports or technical services of the LABORATORY shall be made in any advertising or promotional literature without the express written permission of the LABORATORY.
- 3.11 The CLIENT acknowledges that all employees of LABORATORY operate under employment contracts with the LABORATORY and CLIENT agrees not to solicit employment of such employees or to solicit information related to other clients from said employees.
- 3.12 In recognition of the relative risks and benefits of the project to both CLIENT and LABORATORY, the risks have been allocated such that the CLIENT agrees, to the fullest extent permitted by law, to limit the liability of the LABORATORY to the CLIENT for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, including attorneys' fees and costs and expert witness fees and costs, so that the total aggregate liability of the LABORATORY to the CLIENT shall not exceed \$100,000, or the LABORATORY'S total fee for services rendered on this project, whichever is greater. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

### Paragraph 4. INSURANCE:

- 4.1 LABORATORY shall secure and maintain throughout the full period of the services provided to the CLIENT adequate insurance to protect it from claims under applicable Workmen's Compensation Acts and also shall maintain one million dollars of general liability coverage to cover claims for bodily injury, death or property damage as may arise from the performance of its services.
- 4.2 The CLIENT hereby warrants that it has sufficient insurance to protect its employees adequately under applicable Workmen's Compensation Acts and for bodily injury, death, or property damage.
- 4.3 No insurance of whatever kind or type, which may be carried by either party is to be considered as in any way limiting any other party's responsibility for damages resulting from their operations or for furnishing work and materials.

**Paragraph 5. PAYMENT:**

- 5.1 CLIENT shall pay to LABORATORY such fees for services as previously agreed, orally or in writing, within 30 days of presentment of a bill for such services performed. In the event CLIENT ordered, orally or in writing, services but such services were not assigned a rate for billing, such services shall be billed at the LABORATORY's reasonable and customary rate.
- 5.2 CLIENT shall be responsible for all shipping, customs and other expenses related to services provided by LABORATORY to the CLIENT, and shall fully insure any test sample or other equipment provided to LABORATORY by the CLIENT.
- 5.3 Amounts overdue from CLIENT to LABORATORY shall be charged interest at a rate of 1½% per month.

**Paragraph 6. ISO/IEC GUIDE 17025 ADDITIONS:**

- 6.1 CLIENT agrees that this test report will not be reproduced except in full, without written approval from the LABORATORY.
- 6.2 CLIENT agrees that this test report shall not be used to claim product endorsement by A2LA or ANSI or any agency of the U.S. Government.
- 6.3 CLIENT agrees that test results presented herein relate only to the sample tested by the LABORATORY.